

WHAT IS CLAIMED IS:

1. A graphic display apparatus for robot system comprising:

means for displaying and arranging a 3-D model of a robot on a display screen to cause the displayed model to move in animation on the screen;

means for storing the 3-D model of the robot and one or more of 3-D models of a peripheral equipment, a machine or a part, which is used in a system using the robot; and

means for selecting one or more 3-D models stored in said storing means on the display screen; wherein

the 3-D model of the robot, or the 3-D model of the robot and the 3-D model of a peripheral equipment, a machine or a part, which was selected by said selecting means, are displayed and arranged on the display screen, so that at least a part of the system using the robot is approximated.

2. A graphic display apparatus for robot system comprising:

means for displaying and arranging a 3-D model of a robot on a display screen to cause the displayed model to move in animation on the screen;

means for storing the 3-D model of the robot and one or more of 3-D models of a peripheral equipment, a machine or a part, which is used in a system using the robot; and

means for selecting one or more 3-D models stored in said storing means on the display screen; and

means for adjusting a dimensions of the 3-D model, selected by said selecting means, on the screen; wherein

the 3-D model of the robot of which dimensions was adjusted by said adjusting means, or the 3-D model of the robot and the 3-D model of a peripheral equipment, a machine or a part, which was selected by said selecting means, of which dimensions were adjusted by said adjusting means, are displayed and arranged on the display screen, so that at least a part of the system using the robot is approximated.

3. A graphic display apparatus for robot system comprising:

means for displaying and arranging a 3-D model of a robot on a display screen to cause the displayed model to move in animation on the screen;

a first storing means for storing the 3-D model of the robot

a second storing means for storing one or more 3-D models of a peripheral equipment, a machine or a part, which is used in a system using the robot;

means for selecting one or more 3-D models stored in said second storing means on the display screen; and

means for adjusting a dimension of the 3-D model selected by said selecting means, on the screen; wherein

the 3-D model of the robot, and a the 3-D model of the peripheral equipment, the machine or the part, which was selected by said selecting means, of which dimension were

adjusted by said adjusting means, are displayed and arranged on the display screen, so that at least a part of the system using the robot is approximated.

a 4. The graphic display apparatus for robot system according to ^{CLAIM 1} ~~claim 1, 2 or 3~~, further comprising means for displaying, on the screen, the robot motion corresponding to at least a part of a robot program, in animation.

a 5. The graphic display apparatus for robot system according to ^{CLAIM 1} ~~claim 1, 2 or 3~~, wherein 3-D models of said peripheral equipment, said machine or said part are classified by kinds, a plurality of different types are displayed on the screen for each of classified kinds, and a 3-D model is selected from among the displayed types.

a 6. The graphic display apparatus for robot system according to ^{CLAIM 2} ~~claim 1, 2 or 3~~, further comprising means for adding a 3-D model of the peripheral equipment, the machine or the part of the robot in said storing means.

a 7. The graphic display apparatus for robot system according to ^{CLAIM 2} ~~claim 1, 2 or 3~~, further comprising means for sending information to and receiving information from a robot controller; wherein the shape of the 3-D model of the peripheral equipment, the machine or the part is adjusted based on position data which forms a physical feature of the actual peripheral equipment, the machine or the part, sent from the robot controller through said information sending and receiving means,

a 8. The graphic display apparatus for robot system according to ^{claim 2}~~claim 1, 2 or 3~~, wherein a plan view of layout of an operation system using a robot is displayed on the display screen and the 3-D model of the peripheral equipment, the machine or the part is arranged on the display screen in correspondence with the layout, thereby allowing to carry out modeling of a production system using the robot.

9. The graphic display apparatus for robot system according to claim 3, wherein when the dimension of the 3-D model selected by said selecting means is adjusted by said adjusting means, coordination among the numerical values of a plurality of position data which constitute the 3-D model concerned is considered.

10. The graphic display apparatus for robot system according to claim 3, further comprising a storing means for storing constraint condition which stipulates the coordination among numerical values of a plurality of position data which constitute each 3-D model stored in the second storing means, wherein when the dimension of the 3-D model selected by said selecting means is adjusted by said adjusting means, coordination among the numerical values of a plurality of position data which constitute the 3-D model is considered using the constraint condition stored in said constraint condition storing means.